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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,783	08/17/2006	Morito Morishima	YAMA:138	9499
37013 7590 05/27/2008 ROSSI, KIMMS & McDOWELL LLP. P.O. BOX 826 ASHBURN, VA 20146-0826				
EXAMINER				
PAUL, DISLER				
ART UNIT		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/589,783

**Applicant(s)**

MORISHIMA, MORITO

**Examiner**

DISLER PAUL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 7, 8, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 2, 6 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CD/CC)  
Paper No(s)/Mail Date 8/17/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

In response to the English translation of the priority application which is earlier than the effective date of the prior art, the examiner has withdrawn the last non-final office action, thus the new office actions will be mailed and made non-final.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,4,8,11 are rejected under 35 U.S.C. 102(b) as being anticipated by Cohen et al. (US 2003/0031333 A1).

Re claim 1, Cohen et al. disclose of the sound reproducing apparatus for driving a plurality of speakers to reproduce multi-channel sound, the sound reproducing apparatus comprising: a generator that generates a measuring signal and supplies the measuring signal to a to-be-detected speaker of the plurality of speakers and at least two sensors disposed in a listening position, each of the at least two sensors transmitting a reception notification when receiving a measuring sound wave radiated from the to-be-detected speaker in

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accordance with the measuring signal (fig.8-10, par[0050,0058]); a time difference measuring unit that measures, as to each of the at least two sensors, a time difference between a time instant when the measuring signal is generated and a time instant when the reception notification is received from each of the at least two sensors (fig.9b,12-13,par[0058]), and a distance calculator that calculates, as to each of the at least two sensors, a distance between each of the at least two sensors and the to-be-detected speaker based on the measured time difference (fig.10,par[0058]/R based on array microphones and time delay distance determined); a position calculator that calculates a position of the to-be-detected speaker based on a distance between the at least two sensors and the calculated distance (par[0012,0055], fig.10 wt (33,28-31)) and a storage that stores the calculated position of the to-be-detected speaker (fig.12 wt (39); par[0062]).

Re claims 8, 11 have been analyzed and rejected with respect to claim 1 above.

Re claim 4, the sound reproducing apparatus according to claim 1, Cohen et al. disclose of the specific wherein a distance between at least two speakers is known (fig.2; par[0039]/ estimate distance of respective speakers are known), However, Cohen et al is silent in

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regard of the specific wherein the position calculator calculate a distance between the at least two sensors and positions of the at least two sensors based on distances between the at least two sensors and the at least two speakers calculated by the distance calculator, and the distance between the at least two speakers. But, Cohen et al. did disclose of the specific wherein the distance between the at least two speakers is known and distance of the two sensors are also known (fig.2; par[0039] & (fig.9A / par[0055])) and further wherein the distances between the at least two sensors and the at least two speakers calculated are also known (fig.10,12-13; par[0055,0058]) and futher determining the sensors locations with loudspeakers (par[0046]). Thus, with the following disclosure it is inherent of the specific wherein the position calculator calculate a distance between the at least two sensors and positions of the at least two sensors based on distances between the at least two sensors and the at least two speakers calculated by the distance calculator, and the distance between the at least two speakers.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al. (US 2003/0031333 A1).

Re claim 5, a sound reproducing apparatus for driving a plurality of speakers to reproduce multi-channel sound, the sound reproducing apparatus comprising: generation means for generating a generator

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that, generates a measuring signal and supplying the measuring signal to at least two measuring speakers of the plurality of speakers in turn, the measuring speakers having known positions with respect to a listening position; a sensor that transmits a reception notification as to each of the at least two measuring speakers when receiving a measuring sound wave radiated from each of the measuring speakers in accordance with the measuring signal; a time difference measuring means for measuring unit that measures, as to each of the at least two measuring speakers, a time difference between a time instant when the measuring signal is generated and a time instant when the reception notification is received from the sensor; a distance calculating means for calculating calculator that calculates, as to each of the at least two speakers, a distance between each of the measuring speakers and the to-be- detected speaker based on the measured time difference; a position calculating means for calculating, calculator that calculates a position of the to- be-detected speaker based on a distance between the at least two measuring speakers and the calculated distance; and a storage means for storing that stores positions of the at least two measuring speakers and the calculated speaker position (see claim 1 rejection).

However, while, Cohen et al. disclose of the above with sensor notification, But, Cohen et al. fail to disclose of the sensor that is attached to a to-be-detected speaker. However, official notice is taken the concept of having the sensor that is attached to a to-be-

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detected speaker is simply the inventor's preference, thus it would have been obvious for one of the ordinary skill in the art to have modify Cohen et al. with the sensor that is attached to a to-be-detected speaker for detecting frequency response of the loudspeaker.

3. Claims 3,7,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al. (US 2003/0031333 A1) and further in view of Park (US 2004/0131207 A1).

Re claim 3, the sound reproducing apparatus according to claim 1, However, Cohen et al. fail to disclose of the further comprising a sound field controller that produces sound image localization as if the speakers were located in predetermined recommended positions, respectively, based on respective positions of the speakers stored in the storage. However, Park disclose of a system wherein comprising a sound field controller that produces sound image localization as if the speakers were located in predetermined recommended positions, respectively, based on respective positions of the speakers stored in the storage (fig.3 ; page 3 par[0034-0036]/with delay and sound level based on stored speaker value and positions) for the purpose of producing three dimensional sound for optimum surround sound. Thus, taking the combined teaching of Cohen et al. and Park as a whole, it

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would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify Cohen et al. by incorporating the further comprising a sound field controller that produces sound image localization as if the speakers were located in predetermined recommended positions, respectively, based on respective positions of the speakers stored in the storage for the purpose of producing three dimensional sound for optimum surround sound.

Re claims 7, 10 have been analyzed and rejected with respect to claim 3 respectively.

### ***Claim Objections***

4. Claims 2,6,9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Re claim 2, the sound reproducing apparatus according to claim 1 as above, However, Cohen et al., fail to disclose of the apparatus comprising a speaker layout corrector that changes over signal lines from an amplifier to the speakers and corrects an incorrect layout of the speakers when it is judged that respective speaker positions



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stored in the storage are out of a predetermined relative position relationship of the speakers.

Re claims 6, 9 have been analyzed and objected with respect to claim 2 respectively.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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DP

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2615